



*Harriet Scott, del. et lith.*

*From a photograph from life by Victor A. Prov.*

## THE RING-TAILED OPOSSUM (PHALANGISTA COOKI.)

Sydney, N. S. W.—Thomas Richards, Government Printer.—1869.

# Ring-tail Phalanger.

(PHALANGISTA COOKII. *Desm.*)

FUR dense, and moderately soft; upper parts of body grey, more or less suffused with red; flanks and outer surface of limbs bright rust colour, beneath whitish; ears short, hairy, sometimes with a white spot at the base; tail rusty at the upper part, which colour darkens to within a third of the total length, and ends in a white tip. The white portion of the tail varies considerably in different individuals, and is sometimes altogether absent.

The rusty-coloured Phalanger inhabits the east coast of Australia, and may be considered peculiar to New South Wales and the southern portions of Queensland.

A darker variety is found in Tasmania, and in other parts of Australia, extending as far as the Swan River Colony. The specimens observed in New South Wales, west of the coast range, are generally much paler than the animals found in the dense scrub near the sea-board; there can be no doubt, however, that all the Ring-tailed Phalangers, of whatever colour, are varieties of one and the same species.

These remarks are based upon a careful examination of many skeletons and skulls from the localities before mentioned, and they must be considered far better characteristics than the colour of the fur or the length of the ears, which appear so important to superficial writers.

The Ring-tailed Phalangers are closely allied to the *Petaurista* or Great Flying Squirrel (or better Phalanger), much more so than may at first appear. The dentition of these two groups, in shape, number, and arrangement, is almost identical; but both differ considerably from the smaller Flying Phalangers—the well-known “Sugar Squirrels.”

North Australia produces several species of Phalangers, which have a wide geographical range beyond New Holland; they belong to the genus *Cuscus*, and are distinguished by their remarkably short ears and partly nude tail. The best known *Cuscus* is a large grey species, more or less spotted, the fur in texture and colour bearing a close resemblance to the fur of the *Koala* or Native Bear.

Returning to the southern Phalangers, it is pleasing to notice that the original “Phalanger of Cook” was one of the rufous-grey specimens of New South Wales, or what was then considered New South Wales, before the parent Colony had given birth to the prosperous divisions of Victoria and Queensland. The animal was discovered by Sir Joseph Banks on the Endeavour River, during Cook’s first voyage, and the second specimen which came to hand was obtained during the great navigator’s last expedition, at Adventure Bay, in Van Diemen’s Land. Years passed on, and more Phalangers, from other parts, had been brought to England, but all were considered to be one and the same species by the naturalists of the day, till Mr. Waterhouse, the most able writer on our Fauna, declared both animals to be specifically identical. It is necessary to enlarge upon this subject, because less painstaking authors than Waterhouse are constantly dividing “Cook’s Opossum” again and again, when they observe a new variation in the colouring; the last and most brilliant species being the “Victorian Ring-tailed Phalanger,” but in truth only the dark variety of honest Captain Cook’s own “Ring-tail.” It is time for naturalists to take broader views, and to cease confusing the many eager students who are only too willing to learn, but are constantly disheartened by empty discussions about dark and light hair and long or short ears, among the great Professors.

It is well known that *all* Phalangers are nocturnal in their habits, and Mr. Gould informs us that this particular species of Cook spends its days in the spouts and holes of the larger trees. Mr. Gould is not quite correct in this instance, as the animal much more frequently constructs a most beautiful covered nest among the slender branches of high trees, probably on account of the marauding propensities of the “Tiger Cats,” it being no match for these ferocious brutes.

The female is provided with a well-formed pouch, containing four mamma, and the number of young seldom exceeds two. Mr. Masters took four young from the pouch of a specimen on one occasion; so large a number is, however, an exception. We will now give a general review of the group, as it comprises many species which are not figured in this work.

(3x.11-71)

## FAMILY PHALANGISTIDÆ—(THE PHALANGERS.)

The animals forming this group differ considerably in their general habit and dentition. The normal number is—Incisors  $\frac{6}{2}$ , canines  $\frac{1-1}{1-1}$ , premolars  $\frac{2-2}{2-2}$  or  $\frac{3-3}{3-3}$ , molars  $\frac{4-4}{4-4}$ , = 32 — 36 teeth. The canines and first premolar are often wanting. In the genus *Phascolarctos* the series is permanent, but reduced to 30 teeth, there being no lower canines, and but one premolar in each ramus. The pouch is present, well developed and downwards, the number of teats four, and the young produced at a birth generally one; but in the Ring-tail Phalanger litters of four have been noticed. The toes are five on the fore-feet, and five, including a nailless thumb, behind; the two inner toes are joined by a membrane, as in the Wombat or Kangaroo tribe. The Phalangers are found in almost every part of Australia, except the *Koala* or Native Bear, which is restricted to the east and south-east coast; and the members of the genus *Cuscus*, which inhabit only the tropics. The tail, generally so conspicuous and important, is absent in one species—the *Koala*, but in all others it is well developed and of great utility, on account of its being prehensile. We arrange the genera as follows:—

Genus *Phascolarctos*.—*Phascolarctos cinereus*. Native Bear, or *Koala*. Teeth:—Incisors  $\frac{6}{2}$ , canines  $\frac{1-1}{0-0}$ , premolars  $\frac{1-1}{1-1}$ , molars  $\frac{4-4}{4-4}$ , = 30. Habitat—South-east and east coast.

Genus *Cuscus*.—Teeth:—Incisors, canines, premolars, molars, as given above = 32 to 36.

Tail with the basal portion only covered with hair; ears short, almost hidden by the fur of the head; eyes with a vertical, or nearly vertical pupil.

1. *Cuscus maculata*. Spotted Phalanger. Habitat—North Australia, Amboyna, Waigiou, Banda, and New Guinea.
2. *Cuscus brevicaudatus*. Short-tailed Phalanger. Habitat—North Australia, Port Albany.

Genus *Phalangista*.—Tail completely covered with hair above. Ears of moderate length. Teeth from 32 to 36 in number.

1. *Phalangista cookii*. Cook's Phalanger. *Ngö-ra*—aborigines of Perth, West Australia. *Ngorh*—aborigines of King George's Sound. Habitat—The Phalanger of Cook (the first ever discovered in Australia) is restricted to the east and north-east, and does not occur in West Australia, as implied by the above aboriginal names. Mr. Gould, or rather Mr. Gilbert, probably refers to the Viverrine Phalanger, which is found on the West Coast.
2. *Phalangista viverrina*. Ring-tail Phalanger. Habitat—New South Wales (east of the coast range), Victoria, South and West Australia, Tasmania. The fur in this species is not red, as in Cook's Phalanger, but either grey or almost black. In young animals from West Australia the tip of the tail is red instead of white.
3. *Phalangista laniginosa*. Woolly Phalanger. Habitat—New South Wales, the Upper Hunter. This species from the Hunter is rare in collections, and may probably turn out to be a variety of *Phalangista cookii*. The fur is certainly more woolly, but without the examination of the skull no decision can be arrived at.

Genus *Petaurista*.

This genus is represented by a single species—the *Petaurista taguanoides*, or Great Flying Phalanger. Teeth:—Incisors  $\frac{6}{2}$ , canines  $\frac{1-1}{1-1}$ , premolars  $\frac{3-3}{3-3}$ , molars  $\frac{4-4}{4-4}$ , = 40 teeth. The skull and teeth of this species closely resemble the Viverrine and Cook's Phalanger, so much so that it is difficult even for an experienced anatomist to distinguish between the two when he has nothing but the teeth to go by. The skull of the *Petaurista* is, however, slightly shorter and more flattened. Only one species is known, which varies much, from creamy-white to spotted black and white and perfect black; beneath, the fur is always white. Habitat—New South Wales, Victoria, and Queensland. This animal does not occur on the plains of the interior, and is restricted to the hilly country near the coast.

Genus *Belideus*.

There are a few characteristics by which the two genera of *Petaurus* and *Belideus* can at once be distinguished, and these are, more than anything else, the skull and teeth, so often overlooked even by what are considered standard authors. The skull of the *Belideus flaviventer*, which must be accepted as the type of the genus, is rounded, with large brain-case. (The skull of the *Petaurista* is flat, and contracted between the orbits.) The teeth (molars) are much smaller, not ridged, and they diminish from the first to the last; the lower incisors are of a totally different structure, considerably curved, and not scooped out as the teeth of *Petaurista*, which animals move their mandibles like the Kangaroos. The teeth are:—Incisors  $\frac{6}{2}$ , canines  $\frac{1-1}{1-1}$ , premolars  $\frac{3-3}{3-3}$ , molars  $\frac{4-4}{4-4}$ , = 40. The genus comprises the following four species (a fifth, enumerated by some authors as *Belideus notatus* is a simple *B. breviceps*, which often occurs with a white tip to the tail):—

1. *Belideus flaviventer*. Yellow-bellied Flying Phalanger. General colour greyish-brown; beneath, white or yellow-white, sometimes even bright yellow. Habitat—New South Wales, Victoria, and Queensland,—in particular the coast districts.

2. *Belideus sciurus*. Squirrel Flying Phalanger. Fur very soft; general colour delicate ashy-grey; a black dorsal stripe from nose to tail; beneath, white; tail very long, and bushy. Habitat—the north-east coast of New South Wales and the Queensland coast districts. Of the three smaller Flying Phalangers this species is the largest in size.
3. *Belideus breviceps*. Short-headed Flying Phalanger. Colouration delicate ashy-grey, as in the preceding species; beneath, white; a dorsal stripe on the back, and a smaller and more cylindrical tail than *Belideus sciurus*. The present species inhabits New South Wales, Victoria, and probably South Australia. It prefers the mountain districts, and is not found on the plains of the interior.
4. *Belideus ariel*. Ariel Flying Phalanger. *Wor-gi*—aborigines of Port Essington. General colour as the two preceding species; beneath, rather more yellow; tip of tail black. This is probably only a variety of *Belideus breviceps*. Habitat—North Australia, Port Essington.

Genus *Dactylopsila*. Tail elongate, slender, densely clothed with fur, with the exception of the under-side, near the tip; ears elongate, rounded, bald, except the outer side of the base; fore-feet elongate; toes very slender, compressed, very unequal in length, quite free; the hind feet slender, toes compressed, the two inner toes united—in fact, the feet of a Phalanger. The skull resembles that of *Belideus flaviventer*, but the palate is narrower, and the orbital portion more contracted; the sagittal crest, which in *Belideus* is absent, is distinctly, but not much developed in the present genus; the zygomatic arch is weak in both animals, though much curved, and wide apart; the incisors above and below are strong, the lower ones bent upwards, very powerful at the base, and as broad again as those of *Belideus*, but the grinders are smaller. The correct formula is exactly as in *Belideus flaviventer*. Incisors  $\frac{6}{2}$ , canines  $\frac{1-1}{1-1}$ , premolars  $\frac{3-3}{3-3}$ , molars  $\frac{4-4}{4-4} = 40$ .

*Dactylopsila trivirgata*. Striped Phalanger. General colour white, with three broad black stripes. The middle one runs from the head to the tip of the tail, which is black; the two outer ones enclose the eye, and send a branch down each leg; there is also a branch-stripe down the side of the neck. The habitat of this species is given as Aru Islands by Wallace. A specimen in the Australian Museum was obtained by Mr. J. A. Thorpe, at Cape York.

Genus *Acrobates*. The present genus comprises a single species, which is one of the smallest of the whole tribe. The most important generic characters are the strongly developed canine teeth, the otherwise altered dentition, and the feathered tail.

*Acrobates pygmaea*. Pigmy Acrobates, or Flying Mouse. Teeth:—Incisors  $\frac{3-3}{1-1}$ , canines  $\frac{1-1}{1-1}$ , premolars  $\frac{3-3}{3-3}$ , molars  $\frac{3-3}{3-3} = 36$  teeth. General mouse-colour above, white below; tail flat and feathered, not very prehensile; molar teeth as above, that is, two less in the upper and lower jaw than the other Flying Phalangers possess. Habitat—New South Wales, Victoria, and Queensland.

Genus *Dromicia*. The small Phalangers composing this genus have been likened to the Dormice amongst Rodents; they are, however, nothing more than small species of the Ring-tail Phalanger tribe, with the teeth arranged as in the last subject. Incisors  $\frac{6}{2}$ , canines  $\frac{1-1}{1-1}$ , premolars  $\frac{3-3}{3-3}$ , molars  $\frac{3-3}{3-3} = 36$ . The ears are of moderate size, nearly naked, and generally carried folded down; the toe-nails are small, and the tail long, prehensile, and naked beneath. The upper canines and all the premolars are strongly developed, so that, with other characteristics, such as the habit of folding the ears, there is some approach to the small *Dasyuridae* of the genus *Phascogale*, of which we shall have to speak hereafter. The genus comprises three or four species, which resemble each other considerably, though they are found in localities far apart.

*Dromici gliriformis*. The Thick-tailed Dromicia. The fur is of a mouse-colour, and whitish beneath. This specimen has been figured very fat, with incrassated tail; but being taken from a pair of captives, it may be as well to state that when at large they are never in such excellent condition. We examined several specimens from Tasmania, which appear to be identical with our own continental *Dromicia unicolor*. The King George's Sound Dromicia (*Dromicia concinna*) is probably distinct; it appears a more delicate specimen, with a clean white fur beneath; the upper surface is also of a mouse-colour, tinted or washed with brown. The Dromicias are found in New South Wales, Victoria, and West Australia; they occur, no doubt, in South Australia and Queensland as well, but being so very small are seldom captured.

Genus *Tarsipes*. Head elongate and slender; muffle naked; mouth-opening small; tongue long, slender, with a brush at the tip; skull with the bones very thin and semi-transparent; lower jaw consisting of two slender rami without coronoid process, bearing a pair of horizontally-inserted incisors, with three tubercular teeth behind; in the upper jaw the canine is the largest. The dental formula is given by Waterhouse as follows:—Incisors  $\frac{2-2}{2}$ , canines  $\frac{1-1}{0-0}$ , molars  $\frac{3-3}{3-3}$ , or more. There can be no doubt that, through the *Tarsipes* and *Myrmecobius*, the Marsupialia are linked with the Monotremata, and in particular with the Echidna or Spiny Ant-eater (*Echidna hystrix*).

*Tarsipes rostratus*. Long-nosed Tarsipes. Fur short, adpressed, and rather harsh; general tint grey, more or less suffused with rust colour; sides of body distinctly tinted with rust colour, beneath rusty white; back, with longitudinal black lines; tail, dusky above, greyish beneath, prehensile. Female with distinct pouch, four teats, and generally two young, of such small dimensions when born that they would pass through the eye of a large darning-needle. Habitat—King George's Sound, West Australia.